

Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application. Please amend Claims 34-35, 39-54, 58-66, and 68-69 and add new claims 70-72.

1-33. (Canceled).

34. (Currently Amended) A method for rendering a graphical user interface (GUI), comprising:

providing for the representation of the GUI as a plurality of objects; ~~wherein the objects are organized in a logical hierarchy, wherein the set of objects includes:~~

~~one or more booklets wherein anyone of the one or more booklets represents a set of pages linked by a page navigator having a user selectable graphical representation and is capable of containing other booklets; and~~

~~a plurality of portlets wherein anyone of the plurality of portlets is a self-contained application that renders its own GUI and is capable of communicating with another portlet of the plurality of portlets;~~

generating ~~[[the]]~~ a logical hierarchy ~~[[with]]~~ for the plurality ~~[[set]]~~ of objects using ~~metadata meta data and tag extensions~~, wherein the ~~meta data metadata~~ is created based on one or more definitions in a page description language, and wherein the ~~meta data metadata~~ includes ~~the hierarchy of objects and~~ ~~[[also]]~~ information about properties, events, and model binding that have values set in page descriptions, ~~and wherein the tag extensions associated with the page description language are mapped into the logical hierarchy during render lifecycle of the logical hierarchy; and~~

using an interchangeable lifecycle driver to drive the logical hierarchy through a sequence of states, wherein the interchangeable lifecycle driver isolates lifecycle driver implementation details from a container of the logical hierarchy and allows different lifecycle implementations to be interchanged

~~associating a first theme with a first object in the plurality of objects;~~

~~rendering the first object according to the first theme;~~

~~associating a second theme with a second object in the plurality of objects;~~

~~rendering the second object according to the second theme; and
wherein the second object is a descendant of the first object objects.~~

35. (Currently Amended) The method of claim 34, further comprising:
prior to the providing step, accepting a request to render a graphical user interface (GUI).

36. (Original) The method of claim 35 wherein:
the request in a hypertext transfer protocol (HTTP) request.

37. (Original) The method of claim 35 wherein:
the request originates from a Web browser.

38. (Original) The method of claim 34, further comprising:
generating a response.

39. (Currently Amended) The method of claim ~~[[1]]~~ 34, further comprising wherein:
~~[[the]]~~ allowing a first object in the logical hierarchy ~~[[can]]~~ to respond to an event raised
by ~~[[the]]~~ a second object in the logical hierarchy.

40. (Currently Amended) The method of claim ~~[[1]]~~ 34, further comprising wherein:
allowing an object in the logical hierarchy ~~can have to use~~ an interchangeable persistence
mechanism.

41. (Currently Amended) The method of claim ~~[[1]]~~ 34, further comprising wherein:
allowing an object in the logical hierarchy ~~can have to use~~ an interchangeable rendering
mechanism.

42. (Currently Amended) The method of claim 34 wherein:
in the providing step, an object can represent one of: button, text field, menu, table,
window, window control, title bar, pop-up window, check-box button, radio button, window

frame, desktop, shell, head, body, header, footer, book, page, layout, placeholder, portlet and toggle button.

43. (Currently Amended) The method of claim 34, further comprising ~~wherein~~:

[[the]] allowing an [[first]] object in the logical hierarchy to inherit[[s]] [[the]] a [[first]] theme from a parent object.

44. (Currently Amended) The method of claim 34 ~~wherein~~ further comprising:

[[the]] providing a [[first]] theme that specifies the appearance and/or functioning of [[the]] an [[first]] object of the logical hierarchy in the GUI.

45. (Currently Amended) The method of claim 34 ~~wherein~~ further comprising:

[[the]] rendering [[the]] a first object in the logical hierarchy ~~can be accomplished~~ in parallel with ~~the rendering of the~~ a second object in the logical hierarchy.

46. (Currently Amended) The method of claim 34 ~~wherein~~ further comprising:

[[the]] specifying a theme for the logical hierarchy ~~can be specified~~ in whole or in part by a properties file.

47. (Currently Amended) The method of claim 46 wherein:

in the specifying step, the properties file can include at least one of: 1) cascading style sheet; 2) Java Server Page; 3) Extensible Markup Language; 4) text; 5) Hypertext Markup Language; 6) Extensible Hypertext Markup Language; 7) JavaScript; and 8) Flash MX.

48. (Currently Amended) The method of claim 46 wherein:

in the specifying step, the properties file can specify at least one image.

49. (Currently Amended) The method of claim 34 wherein:

in the providing step, the GUI is part of a portal on the World Wide Web.

50. (Currently Amended) A machine readable medium having instructions stored thereon that when executed by a processor cause a system to:

provide for the representation of the GUI as a ~~[[set]]~~ plurlaity of objects ~~wherein the objects are organized in a logical hierarchy, wherein the set of objects includes:~~

~~one or more booklets wherein anyone of the one or more booklets represents a set of pages linked by a page navigator having a user selectable graphical representation and is capable of containing other booklets; and~~

~~a plurality of portlets wherein anyone of the plurality of portlets is a self-contained application that renders its own GUI and is capable of communicating with another portlet of the plurality of portlets;~~

generate~~[[the]]~~ a logical hierarchy ~~[[with]]~~ for the plurality ~~[[set]]~~ of objects using metadata ~~and tag extensions~~, wherein the meta data is ~~created~~ based on one or more definitions in a page description language, and wherein the meta data includes ~~the hierarchy of objects and~~ also information about properties, events, and model binding that have values set in page descriptions, ~~and wherein the tag extensions associated with the page description language are mapped into the logical hierarchy during render lifecycle of the logical hierarchy; and~~

use an interchangeable lifecycle driver to drive the logical hierarchy through a sequence of states, wherein the interchangeable lifecycle driver isolates lifecycle driver implementation details from a container of the logical hierarchy and allows different lifecycle implementations to be interchanged

~~associate theme with a first object in the set of objects;~~

~~render the first object according to the theme;~~

~~render any descendents of the first object according to the theme;~~

~~wherein any descendents of the first object can override the theme.~~

51. (Currently Amended) The machine readable medium of claim 50 ~~wherein~~ further comprising instructions to:

allow one of the plurality ~~[[set]]~~ of objects ~~[[can]]~~ to respond to an event raised by another of the set of objects.

52. (Currently Amended) The machine readable medium of claim 50 ~~wherein~~ further comprising instructions to:

allow a control ~~can have~~ to use an interchangeable persistence mechanism.

53. (Currently Amended) The machine readable medium of claim 50 ~~wherein~~ further comprising instructions to:

allow a control ~~can have~~ to use have an interchangeable rendering mechanism.

54. (Currently Amended) The machine readable medium of claim 50, further comprising instructions that when executed cause the system to:

accept a request to render a graphical user interface (GUI), prior to provide for the representation of the GUI as a plurality of objects.

55. (Original) The machine readable medium of claim 54 wherein:

the request in a hypertext transfer protocol (HTTP) request.

56. (Original) The machine readable medium of claim 54 wherein:

the request originates from a Web browser.

57. (Original) The machine readable medium of claim 50, further comprising instructions that when executed cause the system to:

generate a response.

58. (Currently Amended) The machine readable medium of claim 50 wherein:

an object of the plurality of objects can represent one of: button, text field, menu, table, window, window control, title bar, pop-up window, check-box button, radio button, window frame, desktop, shell, head, body, header, footer, book, page, layout, placeholder, portlet and toggle button.

59. (Currently Amended) The machine readable medium of claim 50 ~~wherein~~ further comprising instructions to:

~~associating~~ associate ~~[[the]]~~ a theme with ~~[[the]]~~ an ~~[[first]]~~ object ~~can occur~~ when the ~~[[first]]~~ object is rendered.

60. (Currently Amended) The machine readable medium of claim 50 ~~wherein~~ further comprising instructions to:

~~[[the]]~~ allow an ~~[[first]]~~ object of the plurality of objects to inherit~~[[s]]~~ ~~[[the]]~~ a theme from a parent object.

61. (Currently Amended) The machine readable medium of claim 50 ~~wherein~~ further comprising instructions to:

~~[[the]]~~ provide a theme that specifies the appearance and/or functioning of ~~[[the]]~~ a first object in the GUI.

62. (Currently Amended) The machine readable medium of claim 50 ~~wherein~~ further comprising instructions to:

~~rendering the~~ render an first object of the plurality of objects according to ~~[[the]]~~ a theme ~~can be accomplished~~ in parallel with ~~rendering of~~ other objects.

63. (Currently Amended) The machine readable medium of claim 50 further comprising instructions to:

~~[[the]]~~ specify a theme for the plurality of objects ~~can be specified~~ in whole or in part by a properties file.

64. (Currently Amended) The machine readable medium of claim 63 wherein:

to specify a theme for the plurality of objects, the properties file can include at least one of: 1) cascading style sheet; 2) Java Server Page; 3) Extensible Markup Language; 4) text; 5) Hypertext Markup Language; 6) Extensible Hypertext Markup Language; 7) JavaScript; and 8) Flash MX.

65. (Currently Amended) The machine readable medium of claim 63 wherein:
to specify a theme for the plurality of objects, the properties file can specify at least one image.

66. (Currently Amended) The machine readable medium of claim 50 wherein:
the GUI is part of a portal on the World Wide Web, to provide for the representation of the GUI as a plurality of objects.

67. (Canceled).

68. (Currently Amended) The method of claim 34 wherein:
one of the ~~[[set]]~~ plurality of objects is a desktop object and the desktop object contains one or more personalized views.

69. (Currently Amended) The method of claim 34, further comprising:
generating a page implementation class to render the GUI in concert with the logical hierarchy; ~~and~~
~~treating the page implementation class as a servlet and driving it through the render lifecycle.~~

70. (New) The method of claim 34, further comprising:
mapping one or more tag extensions into the logical hierarchy when the logical hierarchy is rendered, wherein the one or more tag extensions represent at least one control in the logical hierarchy, and wherein at least one tag extension can locate a metadata description of the logical hierarchy and create the logical hierarchy.

71. (New) The method of claim 34, further comprising:
implementing the logical hierarchy as a control tree.

72. (New) The method of claim 71, further comprising:

using a streaming control tree factory to create the control tree from an XML stream,
wherein the streaming control tree factory can map each user into an individual control stream
and regenerate the control tree if the XML stream changes.